

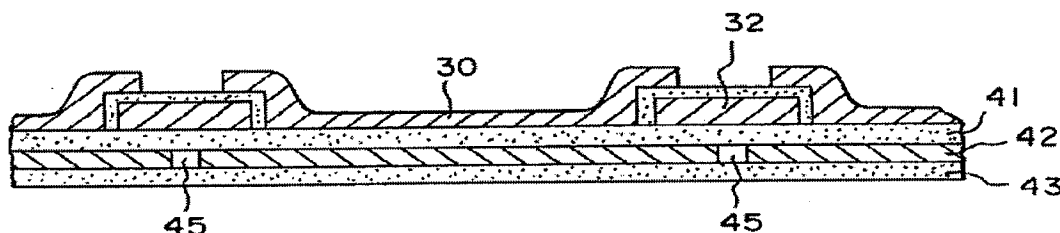
### **REMARKS**

A Request for Continued Examination is Submitted concurrently herewith to reopen prosecution of this application. See 37 C.F.R. 1.198. Claims 1, 14, 28, 39, and 53 have been amended. Claims 1-4, 7-15, 18-23, 25-29, 31-39, 41-63, 65 and 115-144 remain pending. On appeal, the Board affirmed the Examiner's rejection of all pending claims. Without acquiescing to any of the reasoning of the Board in affirming the rejection, Applicant submits the foregoing amendments and the following remarks in an effort to further prosecution of this application.

Claims 1-4, 7-13, and 120 stand rejected under 35 U.S.C. 102 as being unpatentable over U.S. Patent No. 5,804,845 to Anagnostopoulous ("Anagnostopoulous"). All other claims were rejected under 35 U.S.C. 103 over various combinations of the admitted prior art and/or Anagnostopoulous, when considered together with one or more patents issued to Nagasaki, Koike, Suzuki, and Okata. Each of the currently pending claims has been amended (directly or through dependency) to further recite that the "nitrogen containing insulating layer" of the present invention is located in contact with the substrate and "located only in an area beneath said photogate." Support for this amendment can be found in Fig. 10 of the original application and in the text at p. 17, line 30- p.18, line 3 ("the nitrogen containing layer 330 is removed wherever it is not covered and protected by the 350 conductor as shown in Fig. 10").

Unlike the claimed invention, the cited prior art does not teach the unique combination of elements recited by the currently pending claims, including a photogate, and a "nitrogen containing insulating layer" that is "in contact with said substrate" and is "located only in an area beneath said photogate." For example, the embodiment of Anagnostopoulous relied upon by the

Examiner (reproduced below) shows only one ONO layer 41/42/43 that runs along the entire length of the device, and is not located “only in an area beneath said photogate.” Even assuming, *arugendo*, that the electrode 30 represents a photogate, which is not stated, Anagnostopoulos still does not anticipate or render obvious the claimed invention.



**FIG. 3B**

With respect to the allegedly admitted prior art, as seen in FIG. 1, shown below, only one insulating layer 22 is utilized in conventional CMOS pixel cells 14, meaning the same insulating layer 22 is beneath the photogate 24 and the gatestacks for the transfer 28 and reset 32 transistors.

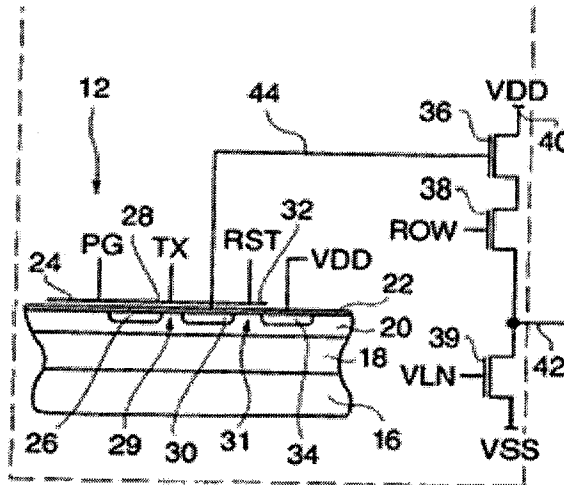


FIG. 1

Similarly, Nagasaki teaches one insulating layer located beneath electrodes. As shown in FIG. 1 (reproduced here), only one insulating film 4 is located between the substrate 1 and the electrodes 6 and 9. This insulating film 4 is shown as the only insulating material located in contact with the substrate 1 or being located beneath the electrodes.

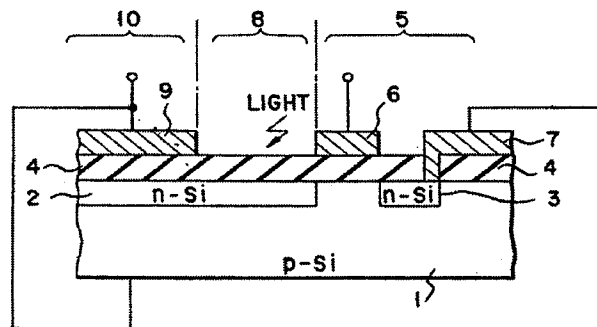


FIG. 1

For at least these reasons, Applicant submits that none of the cited prior art, whether considered alone or in combination, anticipates or renders obvious the claimed invention, as

embodied in claims 1-4, 7-15, 18-23, 25-29, 31-39, 41-63, 65 and 115-144, as amended. In view of the above amendment, Applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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